BEFORE THE
POLLUTION CONTROL HEARINGS BOARD
STATE OF WASHINGTON

IN THE MATTER OF WEYERHAEUSER COMPANY, Appellant, vs. STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY, Respondent.	PCHB No. 258 FINAL FINDINGS OF FACT, CONCLUSIONS AND ORDER

This appeal by Weyerhaeuser Company (herein appellant) came on for hearing at the office of the Board in Lacey, Washington on August 30 and 31, 1973. Chairman Walt Woodward and Board member W. A. Gissberg heard the appeal. Appellant was represented by its attorneys, Lane, Powell, Moss & Miller, G. Keith Grim and Robert R. Davis, Jr. Respondent was represented by the Attorney General and Charles W. Lean, Assistant Attorney General. The Board having read the transcript, reviewed the exhibits, considered the arguments of counsel and considered respondent's Exceptions, now makes and enters the following:

FINDINGS OF FACT

I.

Appellant is a Washington corporation with its principal office at Federal Way, Washington.

II.

Appellant owns and operates a kraft pulp mill located at Longview, Washington. The pulp mill includes three recovery furnaces or boilers numbered 3, 4 and 5 which perform two functions essential for the profitable production of kraft pulp: (1) recovery of chemicals used in pulping of wood chips, and (2) production of heat for steam used in the mill.

III.

In kraft pulping wood chips are cooked in digesters in an alkalin chemical solution composed principally of sodium hydroxide and other sodium and sulfur compounds. Heat and pressure are applied to the digesters and the wood chips are cooked into pulp fibers and liquid lignin and other organic constituents. The pulp fibers are removed for further processing into commercial products. The lignin and pulping chemicals, called weak black liquor, consist of 15 percent by weight dissolved solids, and 85 percent by weight water.

IV.

The weak black liquor is concentrated by evaporation to 60 to 65 percent solids and fed into the recovery boilers. The boilers burn the lignin and reduce the sodium-sulfur compounds to a smelt. The heat produced from the burning is absorbed by water filled tubes inside the boilers to produce steam. The smelt from the bottom of the boilers is

processed and the chemicals are recovered for reuse in the pulp cooking. The recovery of chemicals and heat production are esstential to the profitable production of pulp at the mill. Moreover, recovery of the pulping chemicals avoids the discharge to sewers and reduces water pollution.

V.

Hot gases from boilers 3, 4 and 5 are used to evaporate weak black liquor to 60 to 65 percent through direct contact with the liquor, during which contact the gases absorb chemicals (particularly sulfide ions) which are odorous and are discharged into the atmosphere.

VI.

Boilers 3, 4 and 5 were installed in 1948, 1952 and 1957 respectively. They have been kept in good condition by continuous maintenance and periodic overhaul. This system of maintenance assures that the boilers will continue to perform their essential function (other than emission control) efficiently on an indefinite basis. There is no reason, except to meet air emission limits, for appellant to replace any or all of these boilers to continue pulp production at 1972 levels at its Longview kraft mill.

VII.

Respondent has adopted limits for gaseous emissions discharged from the recovery boilers into the atmosphere. WAC 18-36-030(2) limits the discharge of certain sulfide emissions, referred to as total reduced sulfur or TRS, to two pounds per air dried ton of kraft pulp or seventy parts per million from each recovery stack. WAC 18-36-030(3) requires that by July, 1975, TRS emissions shall not exceed one-half pound of

sulfur per air dried ton or seventeen and one-half parts per million from all recovery stacks or such "other limits of TRS that proves to be reasonably attainable utilizing the latest in design of recovery furnace equipment controls and procedure".

VIII.

After the promulgation of WAC Chapter 18-36, appellant began extensive research and conducted many tests of its boilers under variable operating conditions to determine how to comply with the limitations of that regulation. From an operational standpoint without regard to emission limits, appellant could have continued to operate boilers 3, 4 and 5 at the 1972 pulp production levels indefinitely. However, appellant was unable to operate the boilers at that level and meet the interim limit on TRS emissions set by WAC 18-36-030(2). In January, 1973, appellant was required to reduce its kraft production so that emissions from the three boilers would not exceed the interim emission limits.

Appellant's research and testing program determined that boilers 3 and 4 could not meet the 1975 TRS limits without further curtailment of pulp production which would render the Longview mill uneconomic. It was also determined that if boiler 5 were extensively renovated, emissions from it could meet the 1975 TRS limits. That approach would require the add-on of a new boiler to maintain the 1972 level of pulp production. The total cost for this renovation and new boiler was estimated to be $17,713,000.

IX.

Appellant's research and testing program also determined that as

an alternative, it could meet the 1975 TRS limits by replacement of all three boilers with one new large recovery boiler at a cost of $17,274,000. In November, 1972, appellant selected this more economical alternative. The new boiler represents the most advanced technology in controlling emissions.

X.

The new boiler, designated number 10, is of the latest design and works on a low odor "no contact" concept. Unlike the existing boilers, exhaust gases from the new boiler do not concentrate the weak black liquor by direct contact. Concentration of the black liquor to the requisite solid content is effected in a new device called a concentrator. Elimination of the contact evaporators requires the new boiler to be larger than older boilers to lower the temperature of the flue gases, which is necessary to permit proper particulate recovery in the precipitator and to maximize heat recovery.

XI.

Boiler No. 10 will reduce TRS emissions from the appellant's Longview kraft mill to less than 17 ppm. Emissions presently from boilers 3 and 4 exceed 45 ppm and from boiler 5 exceed 35 ppm when operating at maximum efficiency.

XII.

The new No. 10 boiler was not designed to increase pulp production above the 1972 level and appellant is not installing the boiler to obtain an increase in pulp production. It was designed to maintain appellant's level of production and to comply with the new TRS emission limits. While the new boiler will have a rated capacity slightly in

excess of the capacity required to handle the 1972 operational levels, appellant selected this capacity to insure that the boiler will comply with the 1975 TRS limits regardless of daily fluctuations in pulp production. The only reason appellant is replacing the existing boilers 3, 4 and 5 with No. 10 is to meet the 1975 TRS emission limits in what appellant concluded was the most economic way to meet those limits.

XIII.

The new boiler and related equipment required to be installed concurrently will provide appellant approximately $500,000.00 annual operating advantage over the operating cost of the present three boilers. This sum represents approximately a two and one-half percent return on appellant's capital cost of the new boiler and related equipment which in addition to the costs described in Finding IX include costs of approximately two and one-half million for a new chemical recovery system. This annual advantage in operating costs was not the reason appellant decided to install the new boiler and related equipment. It is appellant's policy to invest its capital so as to derive at least a 12 percent financial return thereon.

XIV.

Appellant timely applied for a pollution control tax exemption and credit certificate for the new boiler and related equipment which included a concentrator, a dissolving tank demister, precipitators and a chemical recovery system. The application with respect to the chemical recovery system is still pending before the respondent awaiting final engineering design and no decision with respect to that part of

the application is now before this Board. The respondent approved appellant's application with respect to the concentrator, the demister and precipitators. Respondent denied approval of the new boiler No. 10.

XV.

Respondent, at least in part, would have approved appellant's application had appellant chosen to meet the 1975 TRS limits by extensive renovation to one of its existing boilers and by adding an additional boiler. After diligent research, appellant determined it could more economically comply with the 1975 TRS limits by complete replacement of all the existing boilers with one new boiler.

XVI.

Appellant's kraft pulp mill at Longview presently has three recovery furnaces with rated capacities, listed by the manufacturers, totaling 2,610,000 pounds of black liquor solids per day. These rated capacities were an approximation of the total pounds of black liquor solids that appellant expected to burn at the time the boilers were ordered. Since 1957 (when the last boiler was ordered), appellant has increased its production at Longview, and now places an average load of 3,254,349 pounds of black liquor solids per day through the existing recovery boilers. This high loading situation places a chemical overload on the boilers which increases air pollution and contributes to operating problems. To solve the air pollution problems appellant proposes to install a new boiler with a rated capacity of 3,600,000 pounds of black liquor solids per day, and discontinue operating of the three existing recovery boilers.

XVII.

Appellant did not request partial approval of this facility, but chose, instead, to contend that the entire facility was eligible for approval, however, appellant has not waived but has preserved its right to request partial approval.

Based upon the foregoing Findings of Fact, the Board makes the following

CONCLUSIONS OF LAW

I.

Appellant's boiler No. 10 is designed and is intended to be operated primarily for the control, capture and removal of pollutants from the air and is suitable, reasonably adequate and meets the intent and purposes of Chapter 70.94 RCW.

II.

Boiler No. 10 qualifies for the tax exemption and credit provided by RCW Chapter 82.34.

III.

To the extent that respondent's regulations (WAC 173-24-030 and 100) deny the certification of appellant's facility based upon the fact that it is a facility which is necessary for the manufacture of products, such regulations are unlawful because they are outside the framework and policy of RCW Chapter 82.34.

IV.

The certificate authorizing a tax exemption and credit should be conditioned upon a requirement therein that appellant's combined pulp production levels from boilers 3, 4, 5 and 10 shall not exceed the

1972 average pulp production level.

From which follows this

ORDER

The Department of Ecology shall approve appellant's application for a certificate authorizing tax exemption and credit provided by RCW Chapter 82.34 with respect to boiler No. 10 being installed at appellant's kraft pulp mill at Longview. Such certificate shall be conditioned upon a requirement therein that appellant's combined pulp production levels from boilers 3, 4, 5 and 10 shall not exceed 1972 average pulp production levels.

DONE at Lacey, Washington this 5th day of March, 1974.

POLLUTION CONTROL HEARINGS BOARD

Walt Woodward

WALT WOODWARD, Chairman

W. A. GISSBERG, Member

Mary Ellen McCaffree

MARY ELLEN McCAFFREE, Member